

What is claimed is:

1. An exposure apparatus comprising:
a light source;
an optical integrator to which light is supplied from the light source; and
a two-dimensional spatial light modulator illuminated by light which has transmitted the optical integrator,
wherein the light source comprises an optical fiber bundle in which a plurality of optical fibers are arranged and light is emitted from the plurality of optical fibers, and
the configuration of a light-emitting area formed at an end portion of the optical fiber bundle is, as seen from the light-emitting side, substantially similar to the contour configuration of the light-emitting surface of the optical integrator.
2. The exposure apparatus according to claim 1, wherein the optical integrator is a fly-eye type.
3. The exposure apparatus according to claim 1, wherein the optical integrator is a rod type.
4. The exposure apparatus according to claim 1, wherein the two-dimensional spatial light modulator is a digital micromirror device.

5. The exposure apparatus according to claim 1, wherein the two-dimensional spatial light modulator is disposed in a tilted manner so that a predetermined angle is formed by a direction of a side of the two-dimensional spatial light modulator and a main scanning direction for exposure.

6. The exposure apparatus according to claim 5, wherein the predetermined angle is in the range of 0.1° to 1° .

7. The exposure apparatus according to claim 1, wherein a diameter of at least one of a core and a clad of each of the plurality of optical fibers is changed depending on the number of the plurality of optical fibers.

8. An exposure apparatus comprising:

a light source device;

an optical integrator to which light is supplied from the light source device; and

a two-dimensional spatial light modulator illuminated by light which has transmitted the optical integrator,

wherein the light source device comprises a light source portion and an optical fiber bundle in which a plurality of optical fibers coupled to the light source portion are arranged and light is emitted from the plurality of optical fibers, and

the configuration of a light-emitting area formed at an end portion of the optical fiber bundle is, as seen from the light-emitting side, substantially similar to the contour configuration of the light-emitting surface of the optical integrator.

9. The exposure apparatus according to claim 8, wherein the optical integrator is a fly-eye type.

10. The exposure apparatus according to claim 8, wherein the optical integrator is a rod type.

11. The exposure apparatus according to claim 8, wherein the light source portion comprises a laser diode.

12. The exposure apparatus according to claim 8, wherein the light source portion comprises a plurality of laser diodes, and each of the plurality of optical fibers is coupled to the plurality of laser diodes.

13. The exposure apparatus according to claim 8, wherein the light source portion comprises a broad area type laser diode array including a plurality of emitters.

14. The exposure apparatus according to claim 8, wherein the two-dimensional spatial light modulator is a digital micromirror device.

15. The exposure apparatus according to claim 8, wherein the two-dimensional spatial light modulator is disposed in a tilted manner so that a predetermined angle is formed by a direction of a side of the two-dimensional spatial light modulator and a main scanning direction for exposure.

16. The exposure apparatus according to claim 15, wherein the predetermined angle is in the range of 0.1° to 1° .

17. The exposure apparatus according to claim 8, wherein a diameter of at least one of a core and a clad of each of the plurality of optical fibers is changed depending on the number of the plurality of optical fibers.

18. An exposure apparatus comprising a plurality of exposure heads,

wherein each of the plurality of exposure heads comprises a light source, an optical integrator to which light is supplied from the light source, and a two-dimensional spatial light modulator illuminated by light which has transmitted the optical integrator,

the light source comprises an optical fiber bundle in which a plurality of optical fibers are arranged and light is emitted from the plurality of optical fibers, and

the configuration of light-exiting area formed at an end portion of the optical fiber bundle is, as seen from the light-exiting side, substantially similar to the contour configuration of the light-emitting surface of the optical integrator.

19. The exposure apparatus according to claim 18, wherein the plurality of exposure heads are arranged in a substantial matrix in which a plurality of exposure head rows, in each of which the exposure heads are arranged in a line along the main scanning direction for exposure, are arranged along a sub scanning direction for exposure, and the exposure heads in the respective rows are arranged so as to be shifted by a predetermined interval.